

AMENDMENTS TO THE CLAIMS

Claims 1-10 (Cancelled)

Claim 11 (New) A light emitting device comprising a semiconductor light emitting element and a phosphor which converts a part of a luminescence spectrum emitted from the semiconductor light emitting element;

wherein said luminescence spectrum of said semiconductor light emitting element is located between a near ultraviolet region and a short-wavelength visible region,

wherein said phosphor is made by adding a red luminescent activator to a base material of a blue luminescent phosphor.

Claim 12 (New) The light emitting device according to claim 11;

wherein the emission wavelength can be adjusted by the added ratio of said red luminescent activator.

Claim 13 (New) The light emitting device according to claims 11;

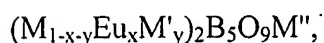
wherein said semiconductor light emitting element has a main peak wavelength more than 360nm in the ultraviolet region.

Claim 14 (New) The light emitting element according to claim 11;

wherein said phosphor is an alkaline earth metal boric halide phosphor activated by at least Mn and Eu.

Claim 15 (New) The light emitting element according to claim 11;

wherein said phosphor is represented by a general formula of



where M is at least one selected from the group consisting of Mg, Ca, Ba, Sr, M' is at least one selected from the group consisting of Mn, Fe, Cr, Sn, $0.0001 \leq x \leq 0.5$,

$0.0001 \leq y \leq 0.5$, and M'' is at least one halogen selected from the group consisting of F, Cl, Br, I.

Claim 16 (New) The light emitting device as in one of claim 11; further comprising a phosphor selected from the group consisting of

an alkaline earth halogen apatite phosphor activated by Eu, or Eu and Mn [(Sr, Ca, Ba, Mg, Zn)₅(PO₄)₃(F, Cl, Br, I):Eu, Mn],

an alkaline earth metal aluminate phosphor [SrAl₂O₄:Eu, Sr₄Al₁₄O₂₅:Eu(Mn), CaAl₂O₄:Eu(Mn), BaMg₂Al₁₆O₂₇:Eu, BaMg₂Al₁₆O₁₂:Eu, Mn, BaMgAl₁₀O₁₇:Eu(Mn)],

a phosphor of CaO-Al₂O₃-SiO₂ including nitride activated by Eu and/or Cr [oxynitride fluoroglass],

a phosphor of M_xSi_yN_z:Eu (where M is at least one selected from the group consisting of Mg, Ca, Ba, Sr, Zn, $z=2/3x+4/3y$),

an yttrium aluminate phosphor activated by cerium,

a rare earth acid sulfide phosphor activated by Eu (La₂O₂S:Eu, Y₂O₂S:Eu and Gd₂O₂S:Eu),

an organic complex phosphor activated by Eu [(Sr, Ca, Ba, Mg)₅(PO₄)₃Cl:Eu, ZnS:Cu, Zn₂GeO₄:Mn, (Sr, Ca, Ba, Mg)Ga₂S₄:Eu and (Sr, Ca, Ba, Mg)₂Si₅N:Eu].

Claim 17 (New) A light emitting device comprising a semiconductor light emitting element and a phosphor which converts a part of a luminescence spectrum emitted from the semiconductor light emitting element;

wherein said luminescence spectrum of said semiconductor light emitting element is located between a near ultraviolet region and a short-wavelength visible region,

wherein said phosphor is an alkaline earth metal boric halide phosphor including at least one element represented by M selected from the group consisting of Mg, Ca, Ba, Sr and at least one element represented by M' selected from the group consisting of Mn, Fe, Cr, Sn.

Claim 18 (New) The light emitting element according to claim 17;

wherein the light emitting layer of said semiconductor light emitting element is made of a nitride semiconductor including at least In and Ga.

Claim 19 (New) The light emitting element according to claim 17;

wherein the light emitting layer of said semiconductor light emitting element is made of a nitride semiconductor including at least Ga and Al.

Claim 20 (New) The light emitting element according to claim 17;

wherein said phosphor is an alkaline earth metal boric halide phosphor activated by at least Mn and Eu.

Claim 21 (New) The light emitting element according to claim 17;

wherein said phosphor is represented by a general formula of $(M_{1-x-y}Eu_xM'_y)_2B_5O_9M''$,

where M is at least one selected from the group consisting of Mg, Ca, Ba, Sr, M' is at least one selected from the group consisting of Mn, Fe, Cr, Sn, $0.0001 \leq x \leq 0.5$, $0.0001 \leq y \leq 0.5$, and M'' is at least one halogen selected from the group consisting of F, Cl, Br, I.

Claim 22 (New) The light emitting device according to claim 17; further comprising a phosphor selected from the group consisting of

an alkaline earth halogen apatite phosphor activated by Eu, or Eu and Mn [(Sr, Ca, Ba, Mg, Zn)₅(PO₄)₃(F, Cl, Br, I):Eu, Mn],

an alkaline earth metal aluminate phosphor [SrAl₂O₄:Eu, Sr₄Al₁₄O₂₅:Eu(Mn), CaAl₂O₄:Eu(Mn), BaMg₂Al₁₆O₂₇:Eu, BaMg₂Al₁₆O₁₂:Eu, Mn, BaMgAl₁₀O₁₇:Eu(Mn)],

a phosphor of CaO-Al₂O₃-SiO₂ including nitride activated by Eu and/or Cr [oxynitride fluoroglass],

a phosphor of M_xSi_yN_z:Eu (where M is at least one selected from the group consisting of Mg, Ca, Ba, Sr, Zn, $z=2/3x+4/3y$),

an yttrium aluminate phosphor activated by cerium,

a rare earth acid sulfide phosphor activated by Eu (La₂O₂S:Eu, Y₂O₂S:Eu and Gd₂O₂S:Eu),

an organic complex phosphor activated by Eu [(Sr, Ca, Ba, Mg)₅(PO₄)₃Cl:Eu, ZnS:Cu, Zn₂GeO₄:Mn, (Sr, Ca, Ba, Mg)Ga₂S₄:Eu and (Sr, Ca, Ba, Mg)₂Si₅N:Eu].

Claim 23 (New) A light emitting device comprising;

a semiconductor light emitting element of which luminescence spectrum is located between a near ultraviolet region and a short-wavelength visible region,

a first phosphor which converts a part of a luminescence spectrum emitted from the semiconductor light emitting element, said first phosphor being made by adding an activator for red light emission to a base material of a blue emitting phosphor,

a second phosphor which can convert a part of the light emitted from the first phosphor to a light having a wavelength in a range from blue region to red region,

wherein a mixed light of the light emitted from the first phosphor and the light emitted from the second phosphor is outputted, said mixed light having a wavelength within a range of white region.

Claim 24 (New) The light emitting device according to claim 23; further comprising a phosphor selected from the group consisting of

an alkaline earth halogen apatite phosphor activated by Eu, or Eu and Mn [(Sr, Ca, Ba, Mg, Zn)₅(PO₄)₃(F, Cl, Br, I):Eu, Mn],

an alkaline earth metal aluminate phosphor [SrAl₂O₄:Eu, Sr₄Al₁₄O₂₅:Eu(Mn), CaAl₂O₄:Eu(Mn), BaMg₂Al₁₆O₂₇:Eu, BaMg₂Al₁₆O₂₇:Eu,Mn, BaMgAl₁₀O₁₇:Eu(Mn)],

a phosphor of CaO-Al₂O₃-SiO₂ including nitride activated by Eu and/or Cr [oxynitride fluoroglass],

a phosphor of M_xSi_yN_z:Eu (where M is at least one selected from the group consisting of Mg, Ca, Ba, Sr, Zn, $z=2/3x+4/3y$),

an yttrium aluminate phosphor activated by cerium,

a rare earth acid sulfide phosphor activated by Eu (La₂O₂S:Eu, Y₂O₂S:Eu and Gd₂O₂S:Eu),

an organic complex phosphor activated by Eu [(Sr, Ca, Ba, Mg)₅(PO₄)₃Cl:Eu, ZnS:Cu, Zn₂GeO₄:Mn, (Sr, Ca, Ba, Mg)Ga₂S₄:Eu and (Sr, Ca, Ba, Mg)₂Si₅N₈:Eu].